

AMENDMENTS TO THE CLAIMS

This is a complete and current listing of the claims, marked with status identifiers in parentheses. The following listing of claims will replace all prior versions and listings of claims in the application.

1. (Previously Presented) A metallic thin film chip producing apparatus, flattening surface roughness of a metallic thin film formed on a first insulating substrate,

said metallic thin film chip producing apparatus comprising:

a placement table on which a metallic thin film chip is placed;

pressing means for causing a second insulating substrate whose surface roughness is lower than the surface roughness of the metallic thin film to sandwich and press the metallic thin film of the metallic thin film chip, placed on the placement table, in a vertical direction with respect to the surface of the metallic thin film; and

heating means for heating only the metallic thin film of the metallic thin film chip placed on the placement table.

2. (Previously Presented) The metallic thin film chip producing apparatus as set forth in claim 1, wherein each of the placement table and the pressing means is made of a material whose dielectric loss is small, and the heating means includes magnetic flux generation means for generating a magnetic flux penetrating the metallic thin film of the metallic thin film chip placed on the placement table, and the magnetic flux causes the metallic thin film to be heated.

3. (Previously Presented) The metallic thin film chip producing apparatus as set forth in claim 2, wherein each of the placement table and

the pressing means is made of a material whose dielectric loss is small, and the heating means is a high frequency heater which includes a coil serving as the magnetic flux generation means.

4. (Original) The metallic thin film producing apparatus as set forth in claim 1, wherein the heating means heats the metallic thin film of the metallic thin film chip by irradiation of a microwave.

5. (Original) The metallic thin film chip producing apparatus as set forth in claim 4, wherein the heating means is a dielectric heater which includes microwave generation means for generating the microwave irradiated to the metallic thin film of the metallic thin film chip.

6. (Previously Presented) The metallic thin film chip producing apparatus as set forth in claim 1, wherein each of the placement table and the pressing means is made of a material whose dielectric loss is small.

7. (Currently Amended) The metallic thin film chip producing apparatus as set forth in ~~any one of claims 1 to 6~~claim 1 comprising a chamber for sealing up the metallic thin film chip placed on the placement table in vacuum or in an inert gas atmosphere.

8. (Currently Amended) The metallic thin film chip producing apparatus as set forth in ~~any one of claims 1 to 6~~claim 1 comprising a chamber for shutting the metallic thin film chip placed on the placement table in a same atmosphere as a room air.

9. (Currently Amended) The metallic thin film chip producing apparatus as set forth in claim 1, ~~7, or 8~~ comprising fixation means for

fixing the metallic thin film of the metallic thin film chip with the metallic thin film sandwiched by the second insulating substrate.

10. (Currently Amended) The metallic thin film chip producing apparatus as set forth in claim 4 ~~or 5~~, wherein each of the placement table and the pressing means has a property which allows the microwave to pass therethrough.

11. (Currently Amended) The metallic thin film chip producing apparatus as set forth in ~~any one of claims 1 to 10~~ claim 1, wherein the metallic thin film is made of gold.

12. (Currently Amended) The metallic thin film chip producing apparatus as set forth in ~~any one of claims 1 to 11~~ claim 1, wherein the second insulating substrate has a surface which is in contact with the metallic thin film so that roughness of the surface is 1 nm or less.

13. (Currently Amended) The metallic thin film chip producing apparatus as set forth in ~~any one of claims 1 to 12~~ claim 1, wherein the heating means heats the metallic thin film until the metallic thin film becomes semi-liquid.

14. (Previously Presented) A metallic thin film chip producing method for flattening surface roughness of a metallic thin film formed on a first insulating substrate,

said method comprising the steps of:

(i) causing a second insulating substrate whose surface roughness is lower than the surface roughness of the metallic thin film to sandwich and press the metallic thin film in a vertical direction with respect to the surface

of the metallic thin film; and

(ii) heating only the metallic thin film.

15. (Previously Presented) The metallic thin film producing method as set forth in claim 14, wherein magnetic flux generation means generates a magnetic flux penetrating the metallic thin film so as to heat the metallic thin film in the step (ii).

16. (Previously Presented) The metallic thin film producing method as set forth in claim 14, wherein microwave generation means irradiates a microwave to the metallic thin film so as to heat the metallic thin film in the step (ii).

17. (Currently Amended) The metallic thin film producing method as set forth in ~~any one of claims 14 to 16~~claim 14, wherein the steps (i) and (ii) are carried out in vacuum or an inert gas atmosphere or in a same atmosphere as a room air.

18. (Currently Amended) The metallic thin film producing method as set forth in ~~any one of claims 14 to 17~~claim 14, wherein the metallic thin film is formed by deposition.